

NOT FOR PUBLICATION

APPENDICES FOR THE PAPER:

**Does fiscal decentralization mitigate the adverse effects of
corruption on public deficits?**

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Table A1. Descriptive statistics.

VARIABLE	OBS	MEAN	STD. DEV.	MIN	MAX
Dependent variable:					
Public deficit	681	2.18	4.52	-18.79	31.16
Fiscal decentralization variables:					
Subnational tax revenue	714	15.83	12.79	0.00	49.45
Subnational govern. Expend	547	31.35	15.04	4.05	66.45
TD1 tax decentral. indicator	403	19.62	16.35	0.05	58.67
Corruption variables:					
ICRG corruption	749	1.41	1.12	0.00	4.00
Control of Corruption	341	1.45	0.71	-0.03	2.62
Corruption Perception Index	479	7.22	1.80	2.99	10.00
Bribe payments	134	4.19	5.21	0.00	27.00
Basic control variables:					
Total government revenue	681	42.60	8.03	19.66	63.20
Growth GDP pc	759	2.01	3.24	-19.73	12.07
Unemployment rate	695	7.35	3.91	0.60	23.88
Ln GDP pc	762	9.72	0.66	7.92	10.94
Population	775	31.04	52.93	0.24	309.71
Additional variables used:					
<i>-Included in Table 5</i>					
Fiscal control	577	0.44	0.74	0.00	3.00
Fiscal autonomy	577	1.71	1.61	0.00	4.79
Subnational government authority	328	0.80	0.40	0.00	1.00
<i>-Included in Table 6</i>					
Federal structure	775	0.26	0.44	0.00	1.00
Executive-legislative relation	599	0.92	1.39	0.00	4.00
Ideology	596	2.51	1.45	1.00	5.00
Number of tiers	775	3.37	0.62	2.00	4.50
Number of elected subnational tiers	725	2.03	0.72	1.00	3.00
Autonomy	775	0.29	0.45	0.00	1.00
Autonomous Regions	714	0.28	0.45	0.00	1.00
Number of intermediate jurisdictions	525	24.24	27.13	8.00	135.00
Number of local jurisdictions	725	3624.03	7144.75	3.00	36559.00

Table A1. Descriptive statistics (Continued)

VARIABLE	OBS	MEAN	STD. DEV.	MIN	MAX
<i>-Included in Table 7</i>					
Intergover. transfers	520	41.17	17.88	8.23	79.29
Borrowing Autonomy Index	475	2.36	0.54	1.45	3.00
Market discipline	625	0.20	0.40	0.00	1.00
Some formal control	600	0.73	0.43	0.00	1.00
Borrowing is prohibited	625	0.12	0.33	0.00	1.00
Bottom tier elections	775	0.92	0.26	0.00	1.00
Election of municipal government	549	1.82	0.41	0.00	2.00
Election of state government	679	1.34	0.72	0.00	2.00
Government fragment.	714	0.32	0.27	0.00	0.83
Parliament fragment.	704	0.69	0.13	0.00	0.90
Herfindalh index	755	0.68	0.27	0.18	1.00
Central bank independence	775	0.66	0.22	0.27	0.88
Subnational debt	502	11.83	11.42	0.33	56.35
Subnational deficits	609	0.28	0.65	-2.28	4.03
Central deficit	609	1.86	4.48	-20.01	30.93
<i>-Included in Table 8</i>					
Debt service	680	2.28	2.61	-3.23	12.08
i bond	652	6.72	3.50	1.01	40.63
Banking crisis dummy	775	0.13	0.34	0.00	1.00
Urbanization rate	775	74.58	11.61	45.82	97.46
Inflation	706	1.44	0.82	-2.26	6.32
Population heterogeneity	775	0.30	0.16	0.07	0.66
Military spending	668	2.13	1.74	0.05	16.03
Income inequality	755	0.49	0.37	0.00	3.60
Public wages	427	36.03	15.91	7.00	98.06
Shadow economy	775	19.18	7.16	8.66	40.26
Electoral year dummy	609	0.29	0.45	0.00	1.00
Social spending	178	20.85	5.93	0.00	32.20
Openness	723	82.29	47.11	16.01	326.76
Freedom of press	527	17.94	7.66	5.00	55.00
Democracy (polity2)	639	9.49	1.87	-7.00	10.00

Table A2. Classification of countries into corruption groups (used in Section 5.5)

	Corruption groups				Scores of corruption indicators			
	ICRG (Reference)	CPI (TI)	Control of Corruption (WGI)	GCB (TI)	ICRG (Reference)	CPI (TI)	Control of Corruption (WGI)	GCB (TI)
Korea, Rep.	1	1	1	3	3.09	4.65	0.42	1.75
Slovenia	1	1	1	1	3.24	6.09	0.98	4.00
Italy	1	1	1	1	3.25	4.81	0.43	13.00
Estonia	1	1	1	n.a.	3.45	6.05	0.77	n.a.
Slovak Republic	1	1	1	n.a.	3.53	4.13	0.33	n.a.
Poland	1	1	1	1	3.63	4.26	0.37	8.33
Czech Republic	1	1	1	1	3.63	4.60	0.41	13.75
Greece	1	1	1	1	3.86	4.56	0.39	20.00
Hungary	1	1	1	1	4.03	5.07	0.64	19.00
Israel	1	2	1	2	4.04	6.78	1.00	3.00
Ireland	2	2	2	2	4.05	7.66	1.61	3.00
Japan	2	2	2	1	4.09	6.95	1.21	3.50
Spain	2	2	2	2	4.12	6.51	1.25	3.00
Portugal	2	1	2	2	4.40	6.44	1.20	2.25
Belgium	2	2	2	n.a.	4.45	6.71	1.43	n.a.
France	2	2	2	2	4.50	6.90	1.41	3.33
United States	2	2	2	2	4.56	7.52	1.58	2.75
Austria	2	2	2	1	4.85	7.96	1.92	3.50
Australia	2	3	2	2	4.87	8.67	1.94	2.00
United Kingdom	2	2	2	2	4.89	8.43	1.95	2.00
Germany	3	2	2	2	4.96	7.89	1.89	2.00
Switzerland	3	3	3	3	5.29	8.84	2.14	1.25
Norway	3	3	3	3	5.46	8.75	2.04	1.67
Luxembourg	3	3	3	1	5.47	8.58	2.00	8.00
Canada	3	3	3	2	5.59	8.84	2.00	2.50
New Zealand	3	3	3	1	5.63	9.44	2.30	4.00
Netherlands	3	3	3	3	5.66	8.87	2.14	1.75
Sweden	3	3	3	3	5.70	9.27	2.22	1.00
Iceland	3	3	3	2	5.74	9.28	2.28	2.00
Denmark	3	3	3	3	5.81	9.58	2.28	1.25
Finland	3	3	3	3	6.00	9.53	2.38	1.75
Matches with ICRG	--	87.1%	96.8%	67.9%				
Correlations with ICRG					--	0.92	0.94	-0.48

Notes: Corruption groups: 1: High corruption; 2: Intermediate corruption; 3: Low corruption. ICRG (Reference) represents the average over the period 1984-2010. CPI (TI) and Control of Corruption (WGI) represent the average over the period 1996-2009. GCB (TI) represents the average over the period 2006-2010. All indicators imply the absence of corruption, except GCB (TI) that means the opposite (note that in this case *ICRG corruption* is not rescaled).

Table A3. Replication of Table 6 of the paper using OLS: Robustness checks: Political and institutional structures. 5-year averages.

	<i>Dependent variable is public deficit over GDP</i>								
	Federal structure	Executive-legislative relation	Ideology	Number of tiers	Number of elected subnational tiers	Autonomy	Autonomous Regions	Number of intermediate jurisdictions	Number of local jurisdictions
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ICRG corruption	1.7*** (0.34)	1.585*** (0.38)	1.633*** (0.37)	1.654*** (0.35)	1.801*** (0.38)	1.638*** (0.34)	1.681*** (0.34)	1.7*** (0.4)	1.696*** (0.36)
Tax decentralization	0.011 (0.03)	0.017 (0.03)	0.021 (0.03)	0.02 (0.03)	0.021 (0.03)	0.013 (0.03)	0.019 (0.03)	0 (0.03)	0.014 (0.03)
Corruption x Tax decent.	-0.076*** (0.02)	-0.056** (0.02)	-0.056*** (0.02)	-0.075*** (0.02)	-0.079*** (0.02)	-0.078*** (0.02)	-0.076*** (0.02)	-0.063*** (0.02)	-0.074*** (0.02)
Total government revenue	-0.076 (0.05)	-0.102** (0.05)	-0.109** (0.05)	-0.086* (0.05)	-0.077* (0.05)	-0.081* (0.05)	-0.085 (0.05)	0.001 (0.04)	-0.087* (0.05)
Growth GDP pc	-0.888*** (0.18)	-0.77*** (0.17)	-0.759*** (0.18)	-0.907*** (0.18)	-0.9*** (0.2)	-0.892*** (0.18)	-0.914*** (0.18)	-0.982*** (0.15)	-0.901*** (0.2)
Unemployment rate	0.236*** (0.07)	0.176** (0.07)	0.165** (0.07)	0.25*** (0.08)	0.23*** (0.08)	0.231*** (0.07)	0.26*** (0.07)	0.231*** (0.06)	0.253*** (0.08)
Ln GDP pc	-1.133* (0.62)	-1.45** (0.61)	-1.431** (0.61)	-1.065* (0.62)	-1.146 (0.72)	-1.308** (0.66)	-1.044* (0.62)	-0.578 (0.73)	-1.044 (0.71)
Population	0.017*** (0)	0.016*** (0)	0.014*** (0)	0.016*** (0)	0.016*** (0)	0.017*** (0)	0.017*** (0)	0.016*** (0)	0.017*** (0)
Additional controls	0.612 (0.6)	0.214 (0.15)	0.025 (0.19)	0.129 (0.38)	0.496 (0.53)	0.893 (0.55)	-0.11 (0.58)	0.002 (0.01)	0.00 (0)
R-squared	0.52	0.54	0.53	0.52	0.51	0.53	0.52	0.59	0.50
Number of obs	142	134	134	142	133	142	142	101	133
<i>Marginal effects of corruption for different percentiles of fiscal decentralization</i>									
Pct 10 (Tax: 2.1)	1.54*** (0.322)	1.47*** (0.355)	1.52*** (0.344)	1.5*** (0.327)	1.64*** (0.353)	1.47*** (0.324)	1.52*** (0.322)	1.57*** (0.375)	1.54*** (0.334)
Pct 20 (Tax: 4.8)	1.33*** (0.301)	1.32*** (0.331)	1.36*** (0.322)	1.29*** (0.308)	1.42*** (0.325)	1.26*** (0.307)	1.31*** (0.304)	1.4*** (0.352)	1.34*** (0.314)
Pct 30 (Tax: 5.8)	1.26*** (0.297)	1.27*** (0.326)	1.31*** (0.317)	1.22*** (0.304)	1.35*** (0.318)	1.19*** (0.304)	1.25*** (0.3)	1.34*** (0.346)	1.27*** (0.309)
Pct 40 (Tax: 7.7)	1.11*** (0.291)	1.16*** (0.317)	1.2*** (0.309)	1.08*** (0.299)	1.19*** (0.308)	1.04*** (0.301)	1.1*** (0.295)	1.22*** (0.337)	1.13*** (0.303)
Pct 50 (Tax: 10.5)	0.89*** (0.293)	1*** (0.315)	1.04*** (0.307)	0.86*** (0.301)	0.97*** (0.306)	0.82*** (0.307)	0.88*** (0.296)	1.04*** (0.333)	0.92*** (0.304)
Pct 60 (Tax: 17.1)	0.39 (0.339)	0.63* (0.352)	0.68* (0.345)	0.37 (0.346)	0.45 (0.353)	0.31 (0.364)	0.38 (0.337)	0.62* (0.365)	0.43 (0.348)
Pct 70 (Tax: 20.8)	0.11 (0.385)	0.43 (0.395)	0.47 (0.387)	0.09 (0.389)	0.16 (0.405)	0.02 (0.414)	0.1 (0.378)	0.39 (0.405)	0.15 (0.393)
Pct 80 (Tax: 28.3)	-0.46 (0.5)	0.02 (0.508)	0.06 (0.498)	-0.46 (0.5)	-0.42 (0.537)	-0.56 (0.536)	-0.46 (0.484)	-0.07 (0.513)	-0.4 (0.507)
Pct 90 (Tax: 33.1)	-0.83 (0.586)	-0.26 (0.594)	-0.22 (0.583)	-0.83 (0.583)	-0.8 (0.635)	-0.94 (0.626)	-0.83 (0.564)	-0.38 (0.597)	-0.76 (0.593)

Notes: The proxy for tax decentralization is *subnational tax revenue*. The period analyzed is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. All regressions are estimated using OLS. Robust standard errors are in parentheses. *, ** and *** denote significance at the 10, 5 and 1% levels, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2.

Table A4. Replication of Table 7 of the paper using OLS: Robustness checks: Variables related to soft budget constraints, 5-year averages.

	<i>Dependent variable is public deficit over GDP</i>														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Intergov. transfers	Borrowing Autonomy Index	Market discipline	Some formal control	Borrowing is prohibited	Bottom tier elections	Election of municipal government	Election of state government	Government fragment.	Parliament fragment.	Heffindalh index	Central bank independence	Subnational debt	Subnational deficits	Central deficit as dependent variable and subnational deficit as additional control
ICRG corruption	1.338*** (0.37)	1.819*** (0.51)	1.436*** (0.41)	1.321*** (0.41)	1.377*** (0.41)	1.752*** (0.35)	1.313*** (0.45)	1.688*** (0.36)	1.658*** (0.34)	1.676*** (0.34)	1.658*** (0.34)	1.633*** (0.36)	1.492*** (0.36)	1.735*** (0.35)	1.8*** (0.35)
Tax decentralization	0.03 (0.04)	0.017 (0.03)	-0.008 (0.03)	-0.02 (0.03)	0.04 (0.03)	0.04 (0.03)	0.02 (0.04)	0.02 (0.03)	0.019 (0.03)	0.02 (0.03)	0.019 (0.03)	0.037 (0.03)	0.008 (0.04)	0.042 (0.03)	0.048 (0.04)
Corruption x Tax decent.	-0.086*** (0.02)	-0.085*** (0.03)	-0.073*** (0.02)	-0.071*** (0.02)	-0.081*** (0.02)	-0.08*** (0.02)	-0.075*** (0.02)	-0.073*** (0.02)	-0.075*** (0.02)	-0.075*** (0.02)	-0.075*** (0.02)	-0.079*** (0.02)	-0.079*** (0.02)	-0.091*** (0.02)	-0.094*** (0.02)
Total government revenue	-0.1 (0.06)	-0.111** (0.05)	-0.116** (0.05)	-0.138** (0.06)	-0.109** (0.05)	-0.087* (0.05)	-0.129** (0.06)	-0.088* (0.05)	-0.092* (0.05)	-0.085* (0.05)	-0.092* (0.05)	-0.121** (0.05)	-0.116* (0.07)	-0.085 (0.06)	-0.083 (0.06)
Growth GDP pc	-0.845*** (0.19)	-0.982*** (0.2)	-1.025*** (0.15)	-1.063*** (0.16)	-1.034*** (0.15)	-0.934*** (0.18)	-0.809*** (0.22)	-0.962*** (0.2)	-0.918*** (0.18)	-0.91*** (0.18)	-0.918*** (0.18)	-0.955*** (0.16)	-0.811*** (0.22)	-0.947*** (0.15)	-0.967*** (0.15)
Unemployment rate	0.231** (0.09)	0.141* (0.08)	0.273*** (0.08)	0.278*** (0.08)	0.288*** (0.08)	0.256*** (0.07)	0.27*** (0.08)	0.254*** (0.08)	0.259*** (0.07)	0.256*** (0.07)	0.259*** (0.07)	0.208*** (0.07)	0.151* (0.08)	0.27*** (0.09)	0.272*** (0.09)
Ln GDP pc	-1.625** (0.67)	-2.459** (1.07)	-1.39* (0.71)	-1.292* (0.75)	-1.392* (0.75)	-1.291* (0.71)	-1.301 (0.8)	-1.102* (0.65)	-1.094* (0.63)	-1.052* (0.62)	-1.094* (0.63)	-0.913 (0.59)	-1.521** (0.68)	-1.144** (0.58)	-1.154** (0.57)
Population	0.017*** (0)	0.015*** (0)	0.018*** (0)	0.018*** (0)	0.018*** (0)	0.018*** (0)	0.017*** (0)	0.016*** (0)	0.018*** (0)	0.017*** (0)	0.018*** (0)	0.018*** (0)	0.014*** (0)	0.019*** (0)	0.018*** (0)
Additional controls	0.012 (0.02)	0.867 (0.63)	0.89 (0.61)	-0.749 (0.56)	0.988 (0.91)	-1.211 (1.11)	1.262* (0.72)	-0.026 (0.36)	0.68 (0.93)	-0.143 (2.5)	-0.696 (0.94)	5.081*** (1.5)	0.058 (0.04)	-0.789 (0.69)	-1.739** (0.69)
R-squared	0.55	0.58	0.54	0.54	0.54	0.52	0.52	0.52	0.52	0.52	0.52	0.58	0.53	0.53	0.54
Number of obs	117	91	117	112	117	142	111	136	142	142	142	142	115	135	135

Marginal effects of corruption for different percentiles of fiscal decentralization

Pct 10 (Tax: 2.1)	1.16*** (0.35)	1.64*** (0.468)	1.28*** (0.378)	1.17*** (0.374)	1.21*** (0.382)	1.58*** (0.326)	1.16*** (0.426)	1.53*** (0.341)	1.5*** (0.322)	1.52*** (0.323)	1.5*** (0.322)	1.47*** (0.313)	1.33*** (0.339)	1.54*** (0.327)	1.6*** (0.333)
Pct 20 (Tax: 4.8)	0.92*** (0.329)	1.41*** (0.423)	1.08*** (0.346)	0.98*** (0.339)	0.99*** (0.346)	1.37*** (0.305)	0.95*** (0.397)	1.33*** (0.323)	1.29*** (0.302)	1.31*** (0.304)	1.29*** (0.302)	1.25*** (0.292)	1.11*** (0.314)	1.3*** (0.309)	1.35*** (0.315)
Pct 30 (Tax: 5.8)	0.84** (0.324)	1.33*** (0.411)	1.02*** (0.337)	0.91*** (0.33)	0.91*** (0.336)	1.29*** (0.3)	0.88** (0.39)	1.27*** (0.319)	1.23*** (0.297)	1.24*** (0.299)	1.23*** (0.297)	1.18*** (0.287)	1.04*** (0.309)	1.21*** (0.306)	1.26*** (0.311)
Pct 40 (Tax: 7.7)	0.67** (0.317)	1.16*** (0.389)	0.87*** (0.323)	0.77** (0.314)	0.75** (0.319)	1.14*** (0.294)	0.73* (0.377)	1.13*** (0.314)	1.08*** (0.291)	1.09*** (0.293)	1.08*** (0.291)	1.03*** (0.282)	0.88*** (0.302)	1.04*** (0.304)	1.08*** (0.308)
Pct 50 (Tax: 10.5)	0.43 (0.318)	0.92** (0.369)	0.67** (0.315)	0.57* (0.304)	0.53* (0.304)	0.91*** (0.296)	0.52 (0.368)	0.92*** (0.315)	0.87*** (0.292)	0.88*** (0.294)	0.87*** (0.292)	0.81*** (0.284)	0.66** (0.305)	0.78** (0.311)	0.81** (0.314)
Pct 60 (Tax: 17.1)	-0.14 (0.363)	0.36 (0.39)	0.19 (0.348)	-0.01 (0.34)	-0.01 (0.325)	0.38 (0.343)	0.03 (0.394)	0.44 (0.355)	0.37 (0.336)	0.38 (0.338)	0.37 (0.337)	0.29 (0.335)	0.14 (0.364)	0.18 (0.373)	0.19 (0.374)
Pct 70 (Tax: 20.8)	-0.46 (0.409)	0.04 (0.438)	-0.08 (0.395)	-0.16 (0.389)	-0.31 (0.366)	0.09 (0.389)	-0.25 (0.434)	0.17 (0.395)	0.09 (0.381)	0.1 (0.381)	0.09 (0.381)	0 (0.384)	-0.15 (0.42)	-0.15 (0.427)	-0.15 (0.428)
Pct 80 (Tax: 28.3)	-1.09** (0.526)	-0.59 (0.582)	-0.62 (0.521)	-0.68 (0.524)	-0.91* (0.485)	-0.5 (0.506)	-0.81 (0.549)	-0.5 (0.5)	-0.47 (0.494)	-0.45 (0.492)	-0.47 (0.495)	-0.59 (0.506)	-0.73 (0.558)	-0.82 (0.558)	-0.85 (0.559)
Pct 90 (Tax: 33.1)	-1.52** (0.615)	-1.01 (0.696)	-0.97 (0.618)	-1.03 (0.625)	-1.3** (0.579)	-0.89 (0.594)	-1.17* (0.64)	-0.73 (0.58)	-0.84 (0.579)	-0.82 (0.575)	-0.84 (0.579)	-0.97 (0.596)	-1.12* (0.659)	-1.27* (0.653)	-1.31** (0.654)

Notes: The proxy for tax decentralization is *subnational tax revenue*. The period analyzed is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. All regressions are estimated using OLS. Robust standard errors are in parentheses. *, ** and *** denote significance at the 10, 5 and 1% level, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2.

Table A5. Replication of Table 8 of the paper using OLS: Robustness checks: Additional control variables, 5-year averages.

	Dependent variable is public deficit over GDP																
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
	Debt service	i bond	Banking crisis dummy	Urbanization rate	Inflation	Population heterogeneity	Military spending	Income inequality	Public wages	Shadow economy	Electoral year dummy	Social spending	Openness	Freedom of press	Democracy (polity2)	Tax decent. squared	
ICRG corruption	1.176*** (0.33)	1.453*** (0.37)	1.662*** (0.34)	1.617*** (0.35)	1.648*** (0.35)	1.683*** (0.35)	1.679*** (0.35)	1.71*** (0.36)	1.765*** (0.5)	1.805*** (0.38)	1.646*** (0.37)	1.665*** (0.38)	1.674*** (0.34)	1.763*** (0.4)	1.826*** (0.35)	1.486*** (0.33)	
Tax decentralization	0.034 (0.02)	0.012 (0.03)	0.02 (0.03)	0.019 (0.03)	0.019 (0.03)	0.019 (0.03)	0.018 (0.03)	0.039 (0.03)	0.05 (0.04)	0.024 (0.03)	0.022 (0.03)	0.033 (0.03)	0.02 (0.03)	0.053* (0.03)	0.016 (0.03)	-0.215*** (0.07)	
Corruption x Tax decent.	-0.066*** (0.02)	-0.071*** (0.02)	-0.075*** (0.02)	-0.073*** (0.02)	-0.081*** (0.02)	-0.075*** (0.02)	-0.074*** (0.02)	-0.085*** (0.02)	-0.074*** (0.03)	-0.073*** (0.02)	-0.056*** (0.02)	-0.081*** (0.02)	-0.075*** (0.02)	-0.085*** (0.02)	-0.056*** (0.02)	-0.044*** (0.02)	
Total government revenue	-0.102** (0.05)	-0.094* (0.05)	-0.091* (0.05)	-0.084* (0.05)	-0.089* (0.05)	-0.084* (0.05)	-0.086* (0.05)	-0.05 (0.05)	-0.143* (0.08)	-0.073* (0.05)	-0.11** (0.05)	-0.31*** (0.1)	-0.086* (0.05)	-0.078 (0.06)	-0.082* (0.05)	-0.043 (0.05)	
Growth GDP pc	-0.691*** (0.17)	-1.025*** (0.13)	-0.833*** (0.18)	-0.916*** (0.18)	-0.944*** (0.18)	-0.909*** (0.17)	-0.931*** (0.18)	-0.85*** (0.18)	-0.797*** (0.24)	-0.876*** (0.17)	-0.802*** (0.18)	-0.699*** (0.19)	-0.917*** (0.2)	-0.866*** (0.19)	-0.739*** (0.17)	-0.813*** (0.18)	
Unemployment rate	0.108 (0.07)	0.297*** (0.07)	0.252*** (0.08)	0.256*** (0.07)	0.237*** (0.07)	0.255*** (0.07)	0.264*** (0.07)	0.296*** (0.1)	0.163* (0.08)	0.26*** (0.07)	0.148** (0.07)	0.132* (0.07)	0.257*** (0.08)	0.195** (0.09)	0.196*** (0.07)	0.237*** (0.07)	
Ln GDP pc	-1.148*** (0.58)	-1.609*** (0.78)	-0.934 (0.64)	-0.947 (0.66)	-1.082** (0.82)	-1.051* (0.61)	-1.079* (0.62)	-1.145* (0.6)	-2.043** (0.98)	-1.399** (0.83)	-1.399** (0.83)	-1.525*** (0.6)	-1.476** (0.65)	-1.064 (0.66)	-1.027* (0.61)	-1.761*** (0.65)	-0.994 (0.62)
Population	0.013*** (0)	0.017*** (0)	0.016*** (0)	0.017*** (0)	0.018*** (0)	0.017*** (0)	0.017*** (0)	0.019*** (0)	0.012* (0.01)	0.015*** (0)	0.016*** (0)	0.014*** (0)	0.017*** (0)	0.016*** (0)	0.016*** (0)	0.017*** (0)	
Additional controls	0.613*** (0.12)	-0.163 (0.16)	2.078 (1.27)	-0.017 (0.03)	-0.911 (0.68)	0.177 (1.61)	0.07 (0.17)	2.882*** (1.02)	0.043 (0.039)	-0.058 (0.06)	-1.677 (1.28)	0.419*** (0.14)	0.001 (0.01)	0.042 (0.07)	1.24*** (0.36)	0.005*** (0)	
R-squared	0.63	0.55	0.53	0.52	0.53	0.52	0.52	0.54	0.56	0.52	0.54	0.59	0.52	0.52	0.55	0.55	
Number of obs	142	132	142	142	142	142	139	141	95	142	134	141	142	121	133	142	

Marginal effects of corruption for different percentiles of fiscal decentralization

Pet 10 (Tax: 2.1)	1.05*** (0.298)	1.3*** (0.347)	1.5*** (0.317)	1.46*** (0.328)	1.48*** (0.333)	1.52*** (0.328)	1.52*** (0.33)	1.53*** (0.341)	1.61*** (0.465)	1.65*** (0.359)	1.53*** (0.346)	1.49*** (0.355)	1.52*** (0.322)	1.58*** (0.382)	1.71*** (0.332)	1.39*** (0.307)
Pet 20 (Tax: 4.8)	0.89*** (0.3)	1.11*** (0.325)	1.3*** (0.298)	1.26*** (0.306)	1.25*** (0.316)	1.32*** (0.308)	1.32*** (0.311)	1.3*** (0.32)	1.41*** (0.422)	1.45*** (0.338)	1.37*** (0.325)	1.27*** (0.333)	1.31*** (0.303)	1.35*** (0.37)	1.55*** (0.31)	1.27*** (0.289)
Pet 30 (Tax: 5.8)	0.83*** (0.298)	1.04*** (0.319)	1.23*** (0.294)	1.2*** (0.301)	1.18*** (0.312)	1.25*** (0.304)	1.25*** (0.306)	1.22*** (0.314)	1.34*** (0.391)	1.38*** (0.323)	1.32*** (0.32)	1.2*** (0.328)	1.24*** (0.299)	1.28*** (0.368)	1.5*** (0.305)	1.23*** (0.286)
Pet 40 (Tax: 7.7)	0.71** (0.296)	0.9*** (0.311)	1.08*** (0.289)	1.05*** (0.294)	1.02*** (0.307)	1.1*** (0.298)	1.11*** (0.3)	1.06*** (0.306)	1.19*** (0.391)	1.24*** (0.325)	1.21*** (0.313)	1.04*** (0.319)	1.1*** (0.293)	1.11*** (0.368)	1.39*** (0.297)	1.15*** (0.282)
Pet 50 (Tax: 10.5)	0.54* (0.301)	0.7** (0.307)	0.87*** (0.291)	0.85*** (0.294)	0.79*** (0.308)	0.89*** (0.299)	0.9*** (0.301)	0.82*** (0.302)	0.99** (0.376)	1.03*** (0.323)	1.05*** (0.312)	0.81** (0.315)	0.88*** (0.295)	0.87** (0.378)	1.23*** (0.294)	1.03*** (0.287)
Pet 60 (Tax: 17.1)	0.15 (0.346)	0.23 (0.339)	0.38 (0.333)	0.37 (0.335)	0.25 (0.347)	0.39 (0.341)	0.41 (0.344)	0.26 (0.333)	0.5 (0.41)	0.55 (0.357)	0.68** (0.351)	0.27 (0.343)	0.39 (0.338)	0.31 (0.441)	0.86** (0.33)	0.74** (0.342)
Pet 70 (Tax: 20.8)	-0.07 (0.386)	-0.04 (0.377)	0.1 (0.375)	0.1 (0.379)	-0.05 (0.387)	0.11 (0.384)	0.13 (0.387)	-0.06 (0.371)	0.22 (0.465)	0.28 (0.396)	0.47 (0.393)	-0.03 (0.379)	0.11 (0.381)	0 (0.494)	0.65* (0.369)	0.58 (0.391)
Pet 80 (Tax: 28.3)	-0.52 (0.486)	-0.57 (0.48)	-0.45 (0.482)	-0.44 (0.491)	-0.65 (0.49)	-0.45 (0.494)	-0.42 (0.498)	-0.69 (0.472)	-0.32 (0.619)	-0.27 (0.5)	-0.45 (0.501)	-0.63 (0.478)	-0.45 (0.491)	-0.63 (0.624)	0.23 (0.475)	0.25 (0.511)
Pet 90 (Tax: 33.1)	-0.81 (0.561)	-0.91 (0.56)	-0.82 (0.562)	-0.8 (0.576)	-1.05* (0.568)	-0.81 (0.576)	-0.78 (0.582)	-1.1** (0.55)	-0.69 (0.739)	-0.63 (0.58)	-0.22 (0.584)	-1.03* (0.555)	-0.81 (0.573)	-1.04 (0.719)	-0.05 (0.555)	0.04 (0.598)

Notes: The proxy for tax decentralization is *subnational tax revenue*. The period analyzed is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. All regressions are estimated using OLS. Robust standard errors are in parentheses. *, **, and *** denote significance at the 10, 5 and 1% levels, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2.

Table A6. Replication of Table 6 and some regressions of Table 5 of the paper using as an alternative tax decentralization indicator the updated Stegarescu's *TDI* measure. System GMM estimator, 5-year averages.

	<i>Dependent variable is public deficit over GDP</i>												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Fiscal control	Fiscal control	Fiscal autonomy	Subnational government authority	Federal structure	Executive-legislative relation	Ideology	Number of tiers	Number of subnational tiers	Autonomy	Autonomous Regions	Number of intermediate jurisdictions	Number of local jurisdictions
ICRG corruption	1.618*** (0.51)	1.731*** (0.44)	1.419*** (0.47)	1.364*** (0.27)	1.58*** (0.52)	1.651*** (0.48)	1.921*** (0.5)	1.524*** (0.54)	1.622*** (0.6)	1.57*** (0.46)	1.97*** (0.55)	1.779*** (0.51)	1.498*** (0.55)
Tax decentralization	0.042 (0.06)	0.047 (0.06)	0.072 (0.05)	0.003 (0.03)	0.046 (0.05)	0.04 (0.05)	0.051 (0.05)	0.038 (0.06)	0.034 (0.06)	0.034 (0.05)	0.057 (0.06)	-0.009 (0.03)	0.036 (0.05)
Corruption x Tax decent.	-0.043 (0.03)	-0.056 (0.04)	-0.017 (0.02)	-0.024* (0.01)	-0.041 (0.03)	-0.039 (0.03)	-0.051* (0.03)	-0.041 (0.03)	-0.04 (0.03)	-0.048 (0.04)	-0.055** (0.03)	-0.036* (0.02)	-0.043 (0.03)
Total government revenue	-0.155* (0.09)	-0.138* (0.08)	-0.063 (0.06)	0.026 (0.04)	-0.156** (0.06)	-0.131 (0.09)	-0.102 (0.06)	-0.166** (0.08)	-0.127** (0.06)	-0.128* (0.08)	-0.157* (0.08)	-0.047 (0.05)	-0.133* (0.07)
Growth GDP pc	-0.886* (0.54)	-0.891** (0.42)	-0.903*** (0.33)	-0.793*** (0.28)	-0.878* (0.46)	-0.827 (0.52)	-0.905*** (0.45)	-0.869* (0.52)	-1.05*** (0.37)	-0.993** (0.39)	-0.966* (0.5)	-1.272*** (0.16)	-0.951** (0.48)
Unemployment rate	0.205 (0.13)	0.233 (0.14)	0.195** (0.1)	0.182* (0.1)	0.196* (0.12)	0.127 (0.09)	0.153 (0.13)	0.154 (0.11)	0.182 (0.17)	0.204 (0.14)	0.216** (0.11)	0.332*** (0.11)	0.132 (0.17)
Ln GDP pc	-2.358 (2.84)	-1.629 (2.37)	-3.733* (2.03)	0.81 (1.64)	-2.448 (2.48)	-3.251 (2.48)	-2.368 (2.48)	-2.673 (2.57)	-3.209 (2.65)	-1.979 (2.65)	-3.267 (2.71)	2.612 (2.23)	-3.227 (3.44)
Population	0.01*** (0)	0.013** (0.01)	0.017*** (0.01)	0.009*** (0)	0.011** (0)	0.011** (0.01)	0.014** (0.01)	0.01* (0.01)	0.012** (0.01)	0.009* (0.01)	0.015** (0.01)	0.005 (0)	0.012** (0.01)
Additional controls	1.308 (0.86)	1.308 (0.86)	-0.867** (0.36)	-4.021*** (0.93)	-0.515 (1.06)	0.467 (0.29)	0.216 (0.17)	0.083 (1.48)	0.077 (1.07)	1.25 (1.72)	-1.281 (1.43)	0.011 (0.01)	0.00 (0.00)
AR(2) test	0.98	0.98	0.87	0.73	0.97	0.97	0.94	0.93	0.78	0.93	0.92	0.69	0.88
Hansen test	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of obs	112	112	112	55	112	112	112	112	103	112	112	88	103
<i>Marginal effects of corruption for different percentiles of fiscal decentralization</i>													
Pet 10 (Tax: 2.6)	1.5*** (0.475)	1.58*** (0.388)	1.37*** (0.435)	1.3*** (0.255)	1.47*** (0.477)	1.55*** (0.438)	1.79*** (0.462)	1.42*** (0.512)	1.52*** (0.565)	1.44*** (0.435)	1.82*** (0.512)	1.68*** (0.48)	1.38*** (0.51)
Pet 20 (Tax: 4.3)	1.43*** (0.455)	1.49*** (0.368)	1.35*** (0.417)	1.26*** (0.25)	1.48*** (0.454)	1.48*** (0.414)	1.7*** (0.442)	1.35*** (0.498)	1.45*** (0.547)	1.36*** (0.428)	1.73*** (0.494)	1.62*** (0.465)	1.31*** (0.49)
Pet 30 (Tax: 6.1)	1.35*** (0.437)	1.39*** (0.356)	1.32*** (0.399)	1.22*** (0.246)	1.33*** (0.432)	1.41*** (0.393)	1.61*** (0.424)	1.28*** (0.487)	1.38*** (0.531)	1.27*** (0.429)	1.63*** (0.476)	1.56*** (0.451)	1.23*** (0.472)
Pet 40 (Tax: 8.0)	1.27*** (0.425)	1.28*** (0.357)	1.28*** (0.385)	1.18*** (0.245)	1.25*** (0.415)	1.34*** (0.378)	1.51*** (0.413)	1.2*** (0.482)	1.3*** (0.519)	1.18*** (0.441)	1.53*** (0.464)	1.49*** (0.44)	1.15** (0.46)
Pet 50 (Tax: 18.1)	0.84* (0.472)	0.71 (0.54)	1.11*** (0.372)	0.94*** (0.285)	0.83* (0.445)	0.94** (0.423)	0.99** (0.476)	0.79 (0.549)	0.9 (0.553)	0.69 (0.636)	0.97** (0.482)	1.12** (0.446)	0.72 (0.513)
Pet 60 (Tax: 21.5)	0.69 (0.522)	0.53 (0.636)	1.06*** (0.394)	0.86*** (0.311)	0.69 (0.493)	0.81* (0.477)	0.82 (0.533)	0.65 (0.6)	0.77 (0.597)	0.53 (0.729)	0.78 (0.518)	1** (0.471)	0.58 (0.567)
Pet 70 (Tax: 26.2)	0.49 (0.612)	0.26 (0.784)	0.98** (0.442)	0.75** (0.355)	0.5 (0.582)	0.62 (0.572)	0.58 (0.63)	0.46 (0.688)	0.58 (0.677)	0.3 (0.871)	0.52 (0.588)	0.83 (0.522)	0.37 (0.661)
Pet 80 (Tax: 35.8)	0.07 (0.833)	-0.28 (1.108)	0.82 (0.58)	0.52 (0.461)	0.1 (0.805)	0.24 (0.803)	0.09 (0.866)	0.07 (0.904)	0.19 (0.885)	-0.16 (1.184)	-0.01 (0.773)	0.48 (0.664)	-0.04 (0.895)
Pet 90 (Tax: 48.8)	-0.49 (1.168)	-1.01 (1.563)	0.6 (0.81)	0.21 (0.621)	-0.44 (1.145)	-0.27 (1.146)	-0.58 (1.216)	-0.46 (1.231)	-0.32 (1.211)	-0.79 (1.626)	-0.73 (1.067)	0.01 (0.898)	-0.6 (1.248)

Notes: The proxy for tax decentralization is the updated Stegarescu's *TDI* measure. The period analyzed is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. All regressions are estimated with the one-step system GMM estimator using the STATA program `xtabond2` (Roodman, 2006), with the orthogonal deviations transformation applied. For the first-difference equation, the second lags of the explanatory variables (all treated as endogenous) are used as instruments. For the level equation, the lagged first-differences of the explanatory variables are used as instruments. The exogenous variables are the period dummies. Robust standard errors are in parentheses. *, **, and *** denote significance at the 10, 5 and 1% levels, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2.

Table A7. Replication of Table 7 of the paper using as an alternative tax decentralization indicator the updated Stegarescu's TDI measure. System GMM estimator, 5-year averages.

	<i>Dependent variable is public deficit over GDP</i>														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Intergover. transfers	Borrowing Autonomy Index	Market discipline	Some formal control	Borrowing is prohibited	Bottom tier elections	Election of municipal government	Election of state government	Government fragment.	Parliament fragment.	Herd index	Central bank independence	Subnational debt	Subnational deficits	Central deficit as dependent variable and subnational deficit as additional control
ICRG corruption	1.391*** (0.41)	1.178** (0.67)	1.488*** (0.47)	1.145** (0.51)	1.206*** (0.45)	1.648*** (0.51)	1.637*** (0.59)	1.387*** (0.45)	2.097*** (0.52)	1.506*** (0.52)	2.134*** (0.54)	1.035** (0.5)	1.467*** (0.41)	1.743*** (0.52)	1.733*** (0.57)
Tax decentralization	0.042 (0.04)	0 (0.05)	-0.024 (0.04)	-0.054 (0.04)	0.027 (0.04)	0.061 (0.07)	0.061 (0.07)	0.042 (0.06)	0.06 (0.05)	0.01 (0.04)	0.061 (0.06)	0.036 (0.05)	0.004 (0.05)	0.085 (0.06)	0.084 (0.06)
Corruption x Tax decent.	-0.07*** (0.03)	-0.063** (0.03)	-0.025 (0.03)	-0.015 (0.03)	-0.039 (0.03)	-0.051 (0.03)	-0.04 (0.03)	-0.026 (0.03)	-0.067** (0.04)	-0.04 (0.03)	-0.07** (0.04)	-0.035 (0.03)	-0.048 (0.03)	-0.064** (0.03)	-0.065** (0.03)
Total government revenue	-0.152* (0.08)	-0.182*** (0.09)	-0.134*** (0.06)	-0.202*** (0.06)	-0.119* (0.07)	-0.144** (0.08)	-0.196*** (0.08)	-0.156*** (0.08)	-0.201*** (0.1)	-0.159* (0.09)	-0.212*** (0.1)	-0.147** (0.08)	-0.131 (0.08)	-0.216*** (0.1)	-0.211* (0.11)
Growth GDP pc	-0.867*** (0.36)	-0.938*** (0.32)	-1.29*** (0.27)	-1.326*** (0.25)	-1.08*** (0.32)	-0.939*** (0.46)	-0.668 (0.57)	-0.952*** (0.47)	-0.951*** (0.4)	-0.947*** (0.34)	-1.011*** (0.4)	-1.122*** (0.36)	-1.001*** (0.38)	-0.875*** (0.42)	-0.824* (0.44)
Unemployment rate	0.113 (0.12)	0.102 (0.11)	0.135 (0.13)	0.165 (0.13)	0.182 (0.15)	0.165 (0.12)	0.102 (0.18)	0.139 (0.16)	0.265*** (0.13)	0.3** (0.14)	0.269** (0.13)	0.117 (0.13)	0.159 (0.14)	0.055 (0.12)	0.053 (0.12)
Ln GDP pc	-4.424*** (2.11)	-2.679 (2.32)	-2.332 (2.73)	-2.03 (2.2)	-4.325 (3.24)	-3.145 (3.52)	-3.702 (3.52)	-3.602 (3.34)	-2.726 (1.99)	-1.499 (1.93)	-2.837 (2.02)	-1.56 (2.48)	-2.579 (1.85)	-3.516 (2.56)	-3.374 (2.63)
Population	0.014*** (0)	0.009** (0)	0.013** (0.01)	0.01* (0.01)	0.014** (0.01)	0.013* (0.01)	0.01 (0.01)	0.012** (0.01)	0.016** (0.01)	0.014** (0.01)	0.017** (0.01)	0.014** (0.01)	0.008** (0)	0.012* (0)	0.012* (0.01)
Additional controls	-0.005 (0.02)	1.776 (1.48)	2.193* (1.21)	-1.818** (0.75)	1.884 (1.33)	-2.072 (2.25)	-0.78 (2.13)	-1.412* (0.81)	3.415 (2.12)	4.777 (4.52)	-4.033* (2.33)	6.752** (3.15)	0.078 (0.06)	-1.452 (1.26)	-2.305* (1.24)
AR(2) test	0.63	0.59	0.59	0.74	0.55	0.99	0.94	0.81	0.64	0.93	0.63	0.93	0.27	0.92	0.89
Hansen test	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of obs	91	84	98	93	98	112	94	112	112	112	112	112	90	105	105

Marginal effects of corruption for different percentiles of fiscal decentralization

Pct 10 (Tax: 2.6)	1.21*** (0.38)	1.01* (0.613)	1.42*** (0.43)	1.11** (0.469)	1.1** (0.405)	1.51*** (0.472)	1.53*** (0.57)	1.32*** (0.428)	1.92*** (0.482)	1.4*** (0.477)	1.95*** (0.487)	0.94** (0.463)	1.34*** (0.374)	1.57*** (0.5)	1.56*** (0.551)
Pct 20 (Tax: 4.3)	1.09*** (0.365)	0.91 (0.585)	1.38*** (0.413)	1.08** (0.448)	1.04*** (0.378)	1.43*** (0.46)	1.47*** (0.564)	1.28*** (0.416)	1.81*** (0.461)	1.34*** (0.456)	1.84*** (0.464)	0.89** (0.447)	1.26*** (0.359)	1.47*** (0.493)	1.45*** (0.542)
Pct 30 (Tax: 6.1)	0.96*** (0.353)	0.79 (0.556)	1.34*** (0.399)	1.05** (0.427)	0.97*** (0.351)	1.33*** (0.453)	1.39** (0.561)	1.23*** (0.408)	1.68*** (0.444)	1.26*** (0.437)	1.71*** (0.446)	0.82* (0.436)	1.17*** (0.349)	1.35*** (0.49)	1.33** (0.536)
Pct 40 (Tax: 8.0)	0.83*** (0.349)	0.68 (0.553)	1.29*** (0.392)	1.03** (0.41)	0.89*** (0.33)	1.24*** (0.456)	1.32** (0.564)	1.18*** (0.405)	1.56*** (0.438)	1.19*** (0.426)	1.57*** (0.44)	0.76* (0.433)	1.08*** (0.348)	1.23** (0.494)	1.21** (0.535)
Pct 50 (Tax: 18.1)	0.13 (0.447)	0.04 (0.52)	1.04** (0.47)	0.88** (0.404)	0.5 (0.343)	0.72 (0.609)	0.91 (0.669)	0.92* (0.48)	0.87 (0.568)	0.78 (0.5)	0.87 (0.578)	0.41 (0.541)	0.59 (0.474)	0.59 (0.598)	0.55 (0.62)
Pct 60 (Tax: 21.5)	-0.1 (0.51)	-0.17 (0.558)	0.95* (0.528)	0.83* (0.496)	0.37 (0.48)	0.55 (0.62)	0.77 (0.729)	0.55 (0.53)	0.77 (0.787)	0.65 (0.671)	0.63 (0.809)	0.29 (0.723)	0.43 (0.662)	0.38 (0.753)	0.33 (0.765)
Pct 70 (Tax: 26.2)	-0.43 (0.612)	-0.46 (0.64)	0.83 (0.626)	0.76 (0.496)	0.19 (0.48)	0.3 (0.823)	0.59 (0.828)	0.33 (0.614)	0.46 (0.787)	0.46 (0.671)	0.3 (0.809)	0.13 (0.723)	0.2 (0.662)	0.08 (0.753)	0.03 (0.765)
Pct 80 (Tax: 35.8)	-1.1 (0.846)	-1.06 (0.866)	0.59 (0.857)	0.61 (0.668)	-0.19 (0.698)	-0.19 (1.119)	0.47 (1.061)	0.47 (0.815)	-0.32 (1.097)	0.07 (0.927)	-0.2 (1.131)	-0.2 (0.985)	-0.27 (0.92)	-0.54 (0.977)	-0.6 (0.984)
Pct 90 (Tax: 48.8)	-2.01* (1.185)	-1.88 (1.23)	0.27 (1.198)	0.42 (0.945)	-0.7 (1.022)	-0.86 (1.545)	-0.33 (1.412)	0.13 (1.114)	-1.2 (1.542)	-0.45 (1.305)	-1.28 (1.594)	-0.65 (1.366)	-0.9 (1.288)	-1.37 (1.309)	-1.45 (1.316)

Notes: The proxy for tax decentralization is the updated Stegarescu's TDI measure. The period analysis is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. All regressions are estimated with the one-step system GMM estimator using the STATA program xtabond2 (Roodman, 2006), with the orthogonal deviations transformation applied. For the first-difference equation, the second lags of the explanatory variables (all treated as endogenous) are used as instruments. For the level equation, the lagged first-differences of the explanatory variables are used as instruments. The exogenous variables are the period dummies. Robust standard errors are in parentheses. *, **, and *** denote significance at the 10, 5 and 1% levels, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2.

Table A8. Replication of Table 8 of the paper using as an alternative tax decentralization indicator the updated Stegarescu's *TDI* measure. System GMM estimator, 5-year averages.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Debt service	i bond	Banking crisis dummy	Urbanization rate	Inflation	Population heterogeneity	Military spending	Income inequality	Public wages	Shadow economy	Electoral year dummy	Social spending	Openness	Freedom of press	Democracy (polity 2)	Tax decent. squared
ICRG corruption	1.202** (0.54)	1.553*** (0.55)	1.18* (0.69)	1.719*** (0.58)	1.74*** (0.56)	1.459*** (0.5)	1.637*** (0.55)	1.522*** (0.58)	1.023** (0.5)	1.599** (0.65)	1.874*** (0.54)	1.266*** (0.38)	1.51** (0.61)	1.16** (0.54)	1.563*** (0.56)	1.215** (0.61)
Tax decentralization	0.04 (0.04)	0.037 (0.04)	0.033 (0.04)	0.036 (0.06)	0.047 (0.05)	0.046 (0.05)	0.048 (0.05)	0.054 (0.05)	0.058 (0.05)	0.037 (0.06)	0.053 (0.06)	0.058 (0.05)	0.054 (0.06)	0.028 (0.05)	0.032 (0.06)	-0.11 (0.13)
Corruption x Tax decent.	-0.04 (0.03)	-0.043 (0.03)	-0.028 (0.03)	-0.06 (0.03)	-0.054** (0.03)	-0.041 (0.03)	-0.053 (0.03)	-0.065** (0.03)	-0.033 (0.03)	-0.042 (0.03)	-0.055 (0.03)	-0.056** (0.03)	-0.04 (0.03)	-0.037 (0.03)	-0.045 (0.03)	-0.023 (0.03)
Total government revenue	-0.179** (0.08)	-0.139*** (0.07)	-0.22** (0.1)	-0.155* (0.09)	-0.145** (0.07)	-0.177*** (0.08)	-0.166** (0.07)	-0.116 (0.07)	-0.166 (0.11)	-0.155* (0.09)	-0.172* (0.09)	-0.432** (0.17)	-0.133** (0.06)	-0.119* (0.07)	-0.119* (0.06)	-0.106 (0.09)
Growth GDP pc	-0.821** (0.42)	-0.726 (0.5)	-0.576 (0.58)	0.829 (0.57)	-0.829* (0.48)	-0.971** (0.39)	-1.076*** (0.32)	-0.857* (0.44)	-1.115*** (0.28)	-0.816 (0.52)	-1.076*** (0.36)	-0.624 (0.41)	-1.037*** (0.37)	-1.078*** (0.35)	-1.078*** (0.41)	-0.915** (0.44)
Unemployment rate	0.142 (0.12)	0.216* (0.13)	0.123 (0.15)	0.148 (0.15)	0.164 (0.12)	0.238** (0.11)	0.136 (0.16)	0.396*** (0.14)	0.094 (0.13)	0.148 (0.14)	0.14 (0.14)	0.161 (0.16)	0.163 (0.12)	0.231* (0.12)	0.162 (0.15)	0.304** (0.12)
Ln GDP pc	-1.58 (2.21)	-2.215 (1.93)	-3.914 (2.75)	-3 (3.01)	-3.144 (2.36)	-2.064 (2.1)	-3.726 (2.83)	-1.145 (2.31)	-4.061* (2.43)	-3.042 (4.71)	-2.499 (2.76)	-1.938 (1.92)	-3.597 (3.55)	-0.658 (2.22)	-3.048 (3.48)	-1.878 (2.1)
Population	0.007* (0)	0.011** (0)	0.007 (0)	0.011** (0.01)	0.011*** (0)	0.01** (0)	0.019 (0.01)	0.015*** (0)	0.009 (0.01)	0.011*** (0)	0.011** (0.01)	0.012** (0)	0.016 (0.01)	0.009** (0)	0.014* (0.01)	0.013** (0.01)
Additional controls	0.38** (0.15)	-0.01 (0.21)	4.704** (1.95)	0.023 (0.06)	-1.118 (1.27)	-2.209 (4.66)	-0.937 (0.94)	3.653** (1.61)	0.054 (0.070)	0.014 (0.18)	-1.405 (2.42)	0.586* (0.3)	0.013 (0.02)	0.103 (0.08)	-1.054 (1.28)	0.002 (0)
AR(2) test	0.99	0.93	0.77	0.88	0.71	0.96	0.95	0.76	0.29	0.91	0.91	0.68	0.93	0.56	0.71	0.93
Hansen test	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of obs	112	112	112	112	112	112	109	112	73	112	112	112	112	92	103	112

Marginal effects of corruption for different percentiles of fiscal decentralization

Pct 10 (Tax: 2.6)	1.1** (0.505)	1.44*** (0.504)	1.11* (0.651)	1.6*** (0.524)	1.6*** (0.526)	1.35*** (0.455)	1.5*** (0.512)	1.35** (0.539)	0.93** (0.441)	1.49*** (0.608)	1.73*** (0.478)	1.12*** (0.349)	1.41** (0.575)	1.06** (0.502)	1.44*** (0.519)	1.15*** (0.558)
Pct 20 (Tax: 4.3)	1.03*** (0.489)	1.37*** (0.491)	1.06* (0.631)	1.53*** (0.493)	1.51*** (0.511)	1.28*** (0.432)	1.41*** (0.496)	1.24** (0.516)	0.88** (0.411)	1.42*** (0.588)	1.64*** (0.448)	1.03*** (0.336)	1.34*** (0.559)	1** (0.482)	1.37*** (0.5)	1.12*** (0.533)
Pct 30 (Tax: 6.1)	0.95*** (0.474)	1.29*** (0.481)	1.01* (0.61)	1.44*** (0.463)	1.41*** (0.496)	1.21*** (0.409)	1.31*** (0.483)	1.12** (0.494)	0.82** (0.382)	1.34*** (0.569)	1.54*** (0.419)	0.92*** (0.327)	1.27** (0.544)	0.94** (0.462)	1.28*** (0.484)	1.07*** (0.51)
Pct 40 (Tax: 8.0)	0.88** (0.464)	1.21** (0.476)	0.96 (0.592)	1.36*** (0.44)	1.31*** (0.486)	1.13*** (0.392)	1.21** (0.476)	1** (0.476)	0.76** (0.359)	1.26*** (0.555)	1.43*** (0.398)	0.82*** (0.326)	1.19*** (0.535)	0.87* (0.447)	1.19** (0.475)	1.03*** (0.492)
Pct 50 (Tax: 18.1)	0.47 (0.503)	0.77 (0.536)	0.67 (0.559)	0.9** (0.459)	0.76 (0.507)	0.72* (0.404)	0.68 (0.553)	0.34 (0.477)	0.42 (0.396)	0.84 (0.573)	0.87* (0.45)	0.24 (0.432)	0.79 (0.569)	0.5 (0.465)	0.73 (0.54)	0.72 (0.515)
Pct 60 (Tax: 21.5)	0.546 (0.546)	0.582 (0.573)	0.45 (0.573)	0.54 (0.515)	0.32 (0.541)	0.38 (0.445)	0.25 (0.611)	-0.18 (0.513)	0.15 (0.458)	0.5 (0.612)	0.43 (0.518)	-0.21 (0.494)	0.47 (0.61)	0.2 (0.505)	0.35 (0.596)	0.61 (0.564)
Pct 70 (Tax: 26.2)	0.15 (0.624)	0.42 (0.663)	0.01 (0.613)	0.54 (0.619)	0.32 (0.605)	0.38 (0.523)	0.25 (0.711)	-0.18 (0.585)	0.15 (0.566)	0.5 (0.687)	0.43 (0.635)	-0.21 (0.594)	0.47 (0.686)	0.2 (0.582)	0.35 (0.695)	0.61 (0.655)
Pct 80 (Tax: 35.8)	-0.24 (0.823)	0.01 (0.864)	0.18 (0.749)	0.1 (0.881)	-0.2 (0.777)	-0.01 (0.726)	-0.25 (0.95)	-0.81 (0.783)	-0.18 (0.827)	0.09 (0.892)	-0.11 (0.915)	-0.75 (0.821)	0.09 (0.884)	-0.15 (0.884)	-0.09 (0.935)	0.38 (0.893)
Pct 90 (Tax: 48.8)	-0.77 (1.13)	-0.56 (1.171)	-0.19 (1)	-0.48 (1.276)	-0.9 (1.053)	-0.55 (1.038)	-0.94 (1.309)	-1.66 (1.099)	-0.61 (1.209)	-0.46 (1.221)	-0.83 (1.325)	-1.49 (1.146)	-0.42 (1.197)	-0.63 (1.093)	-0.69 (1.296)	0.08 (1.259)

Notes: The proxy for tax decentralization is the updated Stegarescu's *TDI* measure. The period analyzed is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. All regressions are estimated with the one-step system GMM estimator using the STATA program xtabond2 (Roodman, 2006), with the orthogonal deviations transformation applied. For the first-difference equation, the second lags of the explanatory variables (all treated as endogenous) are used as instruments. For the level equation, the lagged first-differences of the explanatory variables are used as instruments. The exogenous variables are the period dummies. Robust standard errors are in parentheses. *, **, and *** denote significance at the 10, 5 and 1% levels, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2.

Table A9a. Packages of control variables. System GMM estimator, 5-year averages.

	<i>Dependent variable is public deficit over GDP</i>											
	Ref. model	Packages of control variables										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
ICRG corruption	1.516*** (0.53)	0.995*** (0.14)	1.146*** (0.2)	0.919** (0.42)	2.198*** (0.66)	1.202*** (0.29)	1.07** (0.42)	1.878*** (0.63)	1.344*** (0.51)	0.952** (0.4)	1.392*** (0.27)	0.865** (0.35)
Tax decentralization	0.005 (0.04)	-0.434*** (0.08)	-0.302*** (0.07)	0.128 (0.09)	0.072 (0.06)	0.102** (0.05)	0.115** (0.05)	0.093 (0.07)	0.382*** (0.13)	0.091 (0.11)	0.209*** (0.04)	0.146* (0.08)
Corruption x Tax decent.	-0.051* (0.03)	-0.026** (0.01)	-0.045** (0.02)	-0.088*** (0.03)	-0.089*** (0.03)	-0.081*** (0.02)	-0.099*** (0.03)	-0.103*** (0.04)	-0.128*** (0.03)	-0.075*** (0.03)	-0.11*** (0.03)	-0.038 (0.03)
Total government revenue	0.046 (0.14)	-0.529*** (0.04)	-0.455*** (0.07)	-0.123** (0.06)	-0.267 (0.18)	-0.488*** (0.12)	-0.462*** (0.13)	-0.119* (0.07)	-0.306* (0.16)	-0.146*** (0.05)	-0.383*** (0.12)	-0.327** (0.14)
Growth GDP pc	-0.642** (0.28)	0.127 (0.1)	0.046 (0.25)	-0.665** (0.26)	-0.659*** (0.24)	-0.277 (0.18)	-0.337 (0.23)	-1.17*** (0.22)	-1.067** (0.43)	-0.61** (0.27)	-0.026 (0.09)	-0.094 (0.2)
Unemployment rate	0.318** (0.14)	0.245*** (0.04)	0.162*** (0.06)	-0.003 (0.07)	0.243** (0.11)	-0.049 (0.07)	-0.127 (0.08)	0.032 (0.13)	0.246 (0.2)	-0.011 (0.1)	-0.053 (0.05)	-0.307*** (0.05)
Ln GDP pc	-1.095 (0.77)	-1.543*** (0.58)	-0.795* (0.45)	-1.772*** (0.5)	-1.044 (0.91)	-3.249*** (0.55)	-3.455*** (0.61)	-3.825*** (1.24)	-1.923 (1.72)	-1.875*** (0.5)	-5.775*** (0.89)	-6.531*** (0.68)
Population	0.019** (0.01)	0.017*** (0)	0.016*** (0)	0.014** (0.01)	0.015*** (0.01)	0.017*** (0)	0.017*** (0.01)	0.02*** (0.01)	0.004 (0.01)	0.016*** (0.01)	0.022*** (0.01)	0.022* (0.01)
Subnational government authority		3.683*** (0.56)										
Ideology		-0.132* (0.07)	-0.058 (0.15)									0.254 (0.18)
Election of municipal government		-1.695* (0.93)	-2.151*** (0.72)									
Election of state government		-2.475*** (0.52)	-1.276*** (0.45)									
Central bank independence		-2.166 (2.4)	-3.991*** (1.16)	6.873* (3.91)				3.181 (3.67)	1.802 (7.89)	4.286 (4.26)		-0.865 (2.88)
Subnational deficits		1.325*** (0.27)	0.315 (0.42)			-0.809 (0.59)	-0.616 (0.77)				-0.429 (0.49)	0.438 (0.35)
Debt service		0.709*** (0.09)	0.349*** (0.13)	0.376*** (0.13)					0.155 (0.11)	0.421*** (0.14)		
Banking crisis dummy		0.952 (0.63)	3.534*** (1.08)		1.721 (1.12)							
Income inequality		3.019** (1.29)	2.128** (0.88)		3.104* (1.6)							
Social spending		0.759*** (0.1)	0.882*** (0.12)		0.442** (0.22)	0.813*** (0.19)	0.725*** (0.21)				0.76*** (0.15)	0.839*** (0.23)

Table A9a. (Continued).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Freedom of press		-0.058** (0.03)	0.093** (0.04)									
Democracy (polity2)		2.073* (1.06)	2.388*** (0.66)			0.763 (0.51)					0.661** (0.33)	0.243 (0.4)
Tax decent. squared		0.01*** (0)	0.008*** (0)									
Fiscal control				0.577 (0.47)		0.456 (0.67)	-0.198 (0.78)			1.1** (0.47)	0.153 (0.68)	-2.243* (1.17)
Intergover. transfers				0.052 (0.05)		0.016 (0.02)	0.052* (0.03)	0.021 (0.05)	0.185* (0.1)	0.053 (0.07)	0.034* (0.02)	0.163*** (0.06)
Borrowing is prohibited				1.148*** (0.5)			0.966 (1.17)			0.129 (0.87)		2.928 (1.88)
Bottom tier elections				2.441 (1.52)				-2.028 (3.24)	-15.469 (10.41)	3.011* (1.53)		
Population heterogeneity				-1.072 (2.49)		4.657 (3.2)	1.648 (2.77)		-18.808 (11.89)	-1.577 (2.61)	6.825** (3.02)	7.178 (6.12)
Military spending				0.934 (0.59)			0.129 (0.57)		1.852*** (0.53)	0.626 (0.59)		
Inflation					0.454 (0.92)							
Federal structure						-2.841** (1.26)					-5.289*** (0.93)	
Number of tiers						1.452** (0.59)	0.781 (0.87)				2.247*** (0.75)	-0.531 (1.02)
Number of local jurisdictions						-0.0001** (0.0000)					-0.0001* (0.0000)	-0.00004 (0.0000)
Borrowing Autonomy Index								0.129 (1.25)	3.82 (4.47)			
Herfindalh index								-0.717 (1.32)	4.9* (2.65)			
Public wages									-0.015 (0.047)		0.16*** (0.043)	0.22*** (0.063)
Some formal control										-1.254 (0.81)		
Market discipline												3.964*** (1.3)
AR(2) test	0.73	0.92	0.90	0.55	0.36	0.54	0.53	0.65	0.37	0.47	0.72	0.28
Hansen test	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of obs	142	41	83	94	140	101	93	78	65	90	81	73

Notes: The proxy for tax decentralization is subnational tax revenue. The period analyzed is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. All regressions are estimated with the one-step system GMM estimator using the STATA program xtabond2 (Roodman, 2006), with the orthogonal deviations transformation applied. For the first-difference equation, the second lag of the explanatory variables (all treated as endogenous) are used as instruments. For the level equation, the lagged first-difference of the explanatory variables are used as instruments. The exogenous variables are the period dummies. Robust standard errors are in parentheses. *, ** and *** denote significance at the 10, 5 and 1% levels, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2.

Table A9b. Packages of control variables: Marginal effects of corruption.

	<i>Dependent variable is public deficit over GDP</i>											
	Ref. model	Packages of control variables										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Marginal effects of corruption for different percentiles of fiscal decentralization</i>												
Pct 0 (Tax: 0)	1.516*** (0.53)	0.995*** (0.14)	1.146*** (0.2)	0.919** (0.42)	2.198*** (0.66)	1.202*** (0.29)	1.07** (0.42)	1.878*** (0.63)	1.344*** (0.51)	0.952** (0.4)	1.392*** (0.27)	0.865** (0.35)
Pct 10 (Tax: 2.1)	1.41*** (0.521)	0.94*** (0.134)	1.05*** (0.176)	0.73* (0.392)	2.01*** (0.62)	1.03*** (0.259)	0.86** (0.388)	1.66*** (0.582)	1.08** (0.483)	0.79** (0.373)	1.16*** (0.241)	0.79** (0.312)
Pct 20 (Tax: 4.8)	1.27** (0.52)	0.87*** (0.133)	0.93*** (0.161)	0.49 (0.367)	1.77*** (0.58)	0.81*** (0.229)	0.59* (0.354)	1.38*** (0.525)	0.73 (0.456)	0.59* (0.346)	0.86*** (0.221)	0.68** (0.275)
Pct 30 (Tax: 5.8)	1.23** (0.523)	0.84*** (0.135)	0.89*** (0.159)	0.41 (0.361)	1.68*** (0.568)	0.74*** (0.222)	0.5 (0.345)	1.29** (0.509)	0.61 (0.451)	0.52 (0.339)	0.76*** (0.221)	0.65** (0.265)
Pct 40 (Tax: 7.7)	1.13** (0.534)	0.79*** (0.142)	0.8*** (0.161)	0.24 (0.355)	1.51*** (0.547)	0.58*** (0.214)	0.31 (0.331)	1.09** (0.483)	0.36 (0.447)	0.37 (0.331)	0.54** (0.234)	0.57** (0.251)
Pct 50 (Tax: 10.5)	0.98* (0.561)	0.72*** (0.158)	0.68*** (0.175)	-0.01 (0.361)	1.26** (0.527)	0.35 (0.217)	0.03 (0.325)	0.8* (0.466)	0 (0.458)	0.16 (0.333)	0.23 (0.277)	0.47* (0.248)
Pct 60 (Tax: 17.1)	0.65 (0.664)	0.54** (0.217)	0.38 (0.25)	-0.59 (0.433)	0.66 (0.529)	-0.18 (0.287)	-0.62* (0.372)	0.12 (0.522)	-0.84 (0.552)	-0.34 (0.395)	-0.5 (0.436)	0.22 (0.317)
Pct 70 (Tax: 20.8)	0.46 (0.741)	0.44* (0.257)	0.22 (0.304)	-0.92* (0.498)	0.33 (0.56)	-0.48 (0.348)	-0.99** (0.428)	-0.26 (0.602)	-1.32** (0.633)	-0.61 (0.455)	-0.9* (0.539)	0.08 (0.384)
Pct 80 (Tax: 28.3)	0.09 (0.917)	0.25 (0.343)	-0.11 (0.423)	-1.58** (0.658)	-0.33 (0.673)	-1.08** (0.491)	-1.72*** (0.574)	-1.02 (0.817)	-2.27*** (0.828)	-1.17* (0.603)	-1.72** (0.758)	-0.21 (0.546)
Pct 90 (Tax: 33.1)	-0.16 (1.044)	0.12 (0.402)	-0.33 (0.505)	-2.01*** (0.774)	-0.77 (0.772)	-1.48** (0.593)	-2.2*** (0.683)	-1.52 (0.98)	-2.89*** (0.971)	-1.54** (0.712)	-2.26** (0.905)	-0.39 (0.661)

Table A10. Replication of Table 4 of the paper excluding influential observations: Panel data analysis. Tax decentralization.

	<i>Dependent variable is public deficit over GDP</i>							
	<i>Annual data</i>				<i>5-year average data</i>			
	<i>OLS</i>		<i>System GMM estimator</i>		<i>OLS</i>		<i>System GMM estimator</i>	
Observations excluded if standardized residuals > 2								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ICRG corruption	0.871*** (0.14)	1.336*** (0.19)	1.005** (0.46)	1.308*** (0.48)	1.198*** (0.28)	1.612*** (0.33)	0.879 (0.62)	1.075** (0.5)
Tax decentralization		0 (0.01)		0.013 (0.04)		0.001 (0.02)		-0.002 (0.04)
Corruption x Tax decent.		-0.054*** (0.01)		-0.05* (0.03)		-0.066*** (0.02)		-0.06** (0.03)
Total government revenue	-0.006 (0.02)	-0.037** (0.02)	-0.025 (0.07)	-0.069 (0.07)	0.008 (0.03)	-0.039 (0.04)	-0.044 (0.17)	-0.097 (0.1)
Growth GDP pc	-0.56*** (0.05)	-0.548*** (0.05)	-0.593*** (0.12)	-0.586*** (0.12)	-0.94*** (0.13)	-0.945*** (0.11)	-0.529* (0.32)	-0.865*** (0.27)
Unemployment rate	0.286*** (0.03)	0.285*** (0.03)	0.449*** (0.14)	0.358*** (0.12)	0.201*** (0.06)	0.253*** (0.06)	0.238* (0.14)	0.355*** (0.12)
Ln GDP pc	-1.334*** (0.28)	-1.051*** (0.29)	-1.151 (0.8)	-1.158 (0.81)	-1.327** (0.51)	-0.825 (0.51)	-0.659 (0.77)	-0.635 (0.71)
Population	0.009*** (0)	0.015*** (0)	0.009*** (0)	0.014*** (0)	0.007* (0)	0.016*** (0)	0.004 (0.01)	0.013** (0.01)
Hansen test			0.06	0.102			0.845	0.766
AR(2) test			1.00	1.00			0.905	1.00
R-squared	0.51	0.55			0.55	0.59		
Number of obs.	616	614	619	613	137	138	135	137
<i>Marginal effects of corruption for different percentiles of fiscal decentralization</i>								
Pct 10 (Tax: 2.1)		1.22*** (0.179)		1.2*** (0.454)		1.47*** (0.315)		0.95** (0.468)
Pct 20 (Tax: 4.8)		1.08*** (0.167)		1.07** (0.436)		1.29*** (0.299)		0.78* (0.441)
Pct 30 (Tax: 5.8)		1.03*** (0.163)		1.02** (0.433)		1.23*** (0.295)		0.73* (0.434)
Pct 40 (Tax: 7.7)		0.92*** (0.158)		0.92** (0.433)		1.1*** (0.29)		0.61 (0.425)
Pct 50 (Tax: 10.5)		0.77*** (0.154)		0.78* (0.447)		0.91*** (0.291)		0.44 (0.424)
Pct 60 (Tax: 17.1)		0.41** (0.167)		0.45 (0.534)		0.48 (0.328)		0.04 (0.472)
Pct 70 (Tax: 20.8)		0.21 (0.185)		0.26 (0.606)		0.23 (0.365)		-0.18 (0.526)
Pct 80 (Tax: 28.3)		-0.19 (0.235)		-0.11 (0.779)		-0.26 (0.46)		-0.62 (0.666)
Pct 90 (Tax: 33.1)		-0.45 (0.276)		-0.35 (0.905)		-0.58 (0.533)		-0.92 (0.774)

Notes: The proxy for tax decentralization is *subnational tax revenue*. The period analyzed is 1986-2010. The estimations include a constant term and period dummies, which are omitted for space considerations. Robust standard errors are in parentheses. *, ** and *** denote significance at the 10, 5 and 1% levels, respectively. Percentiles of tax decentralization are calculated for average values over the period 1986-2010. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2. Regressions 1, 2, 5 and 6 are estimated with OLS. Regressions 3, 4, 7 and 8 are estimated with the one-step system GMM estimator using the STATA program *xtabond2* (Roodman, 2006), with the orthogonal deviations transformation applied. For the first-difference equation, the second lags of the explanatory variables (all treated as endogenous) are used as instruments. For the level equation, the lagged first-differences of the explanatory variables are used as instruments. The exogenous variables are the period dummies. We delete observations whose standardized residuals are higher in absolute value than two.

Table A11. Replication of Table 9 of the paper excluding influential observations: Within-country variations.

<i>Dependent variable is public deficit over GDP</i>								
Corruption indicator :	<i>Annual data</i>				<i>5-year average data</i>			
	ICRG	TI	WBGI	GCB	ICRG	TI	WBGI	GCB
Observations excluded if standardized residuals > 2								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tax decentralization	0.53*** (0.1)	0.386*** (0.08)	0.551*** (0.1)	0.606*** (0.12)	0.419** (0.19)	0.362** (0.17)	0.44** (0.19)	0.548** (0.21)
Tax decent x Interm. corruption	-0.544*** (0.11)	-0.401*** (0.09)	-0.567*** (0.11)	-0.58*** (0.12)	-0.414** (0.19)	-0.351* (0.18)	-0.439** (0.2)	-0.579** (0.23)
Tax decent x High corruption	-0.728*** (0.11)	-0.588*** (0.09)	-0.75*** (0.11)	-0.697*** (0.12)	-0.683*** (0.21)	-0.622*** (0.2)	-0.706*** (0.22)	-0.565** (0.23)
Total government revenue	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)	-0.142*** (0.04)	-0.116 (0.09)	-0.144 (0.09)	-0.115 (0.09)	0.006 (0.09)
Growth GDP pc	-0.28*** (0.05)	-0.274*** (0.05)	-0.279*** (0.05)	-0.249*** (0.05)	-0.325** (0.13)	-0.314** (0.12)	-0.324** (0.13)	-0.581*** (0.16)
Unemployment rate	0.481*** (0.04)	0.47*** (0.04)	0.482*** (0.04)	0.521*** (0.05)	0.478*** (0.1)	0.509*** (0.09)	0.478*** (0.1)	0.373*** (0.1)
Ln GDP pc	2.636** (1.09)	2.375** (1.06)	2.565** (1.09)	2.938** (1.36)	3.526* (1.99)	3.318* (1.86)	3.486* (1.99)	0.665 (2.7)
Population	0.064*** (0.01)	0.062*** (0.01)	0.064*** (0.01)	0.061*** (0.01)	0.059** (0.03)	0.057** (0.03)	0.059** (0.03)	0.047 (0.03)
R-squared	0.82	0.81	0.82	0.82	0.85	0.84	0.85	0.87
Number of obs.	611	609	611	565	136	138	136	123

Notes: The proxy for tax decentralization is *subnational tax revenue*. The period analyzed is 1986-2010. The estimations include period and country dummies, which are omitted for space considerations. All regressions are estimated with the two-way fixed effects estimator. Robust standard errors are in parentheses. *, ** and *** denote significance at the 10, 5 and 1% levels, respectively. The definitions of the variables can be found in Appendix I. The list of countries included in the sample is shown in Table 2. We delete observations whose standardized residuals are higher in absolute value than two.

Figure A1. The relationship between the standard deviation of corruption and the public deficit. (Figure mentioned in Section 1 (Introduction)).

